SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Everglades Restoration Update

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Assistant Deputy Executive Director

Governing Board Workshop
July 9, 2008

sfwmd.gov

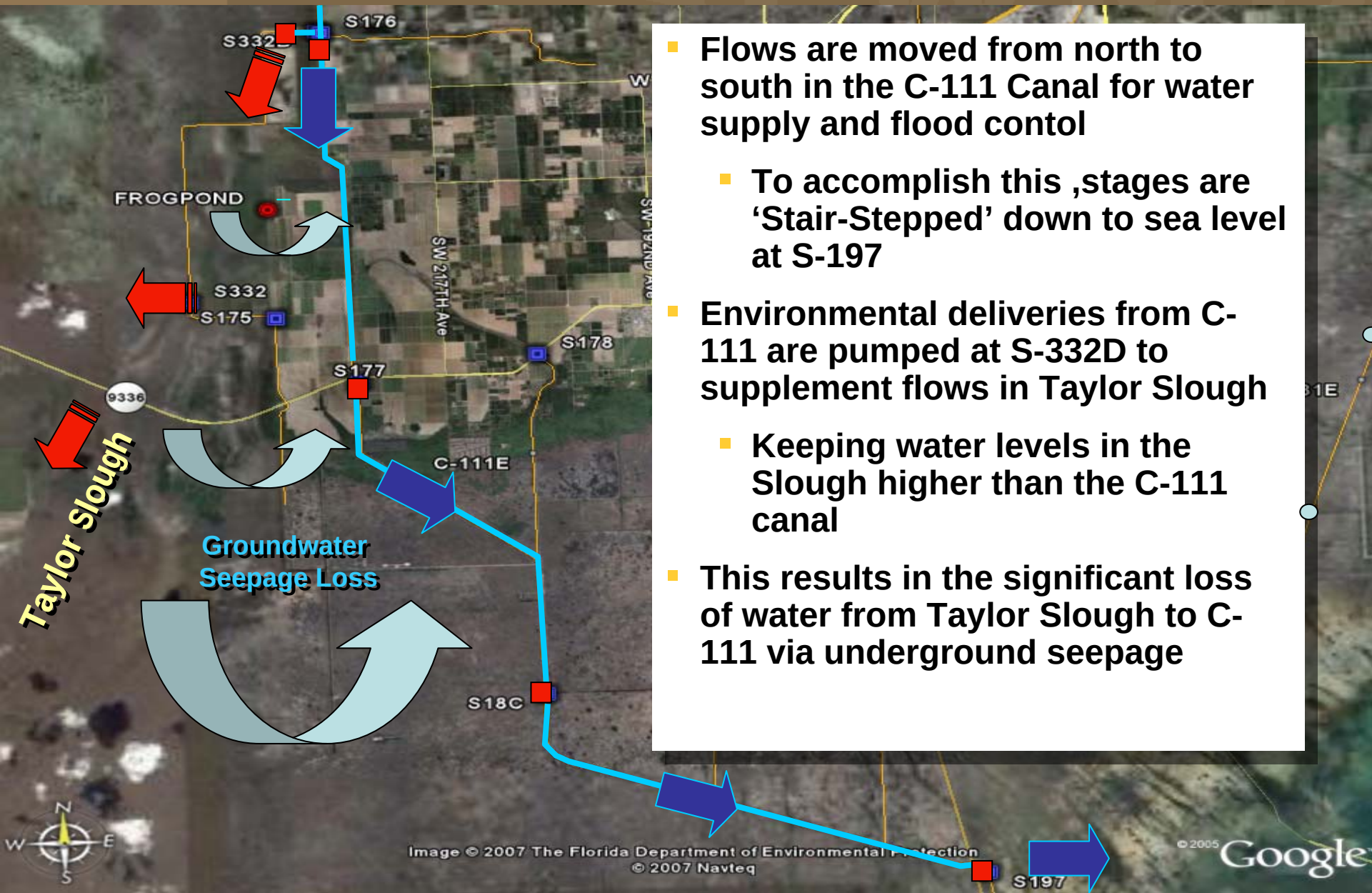
C-111 Spreader Canal Project
Expedited Construction

July 9, 2008

Governing Board Workshop

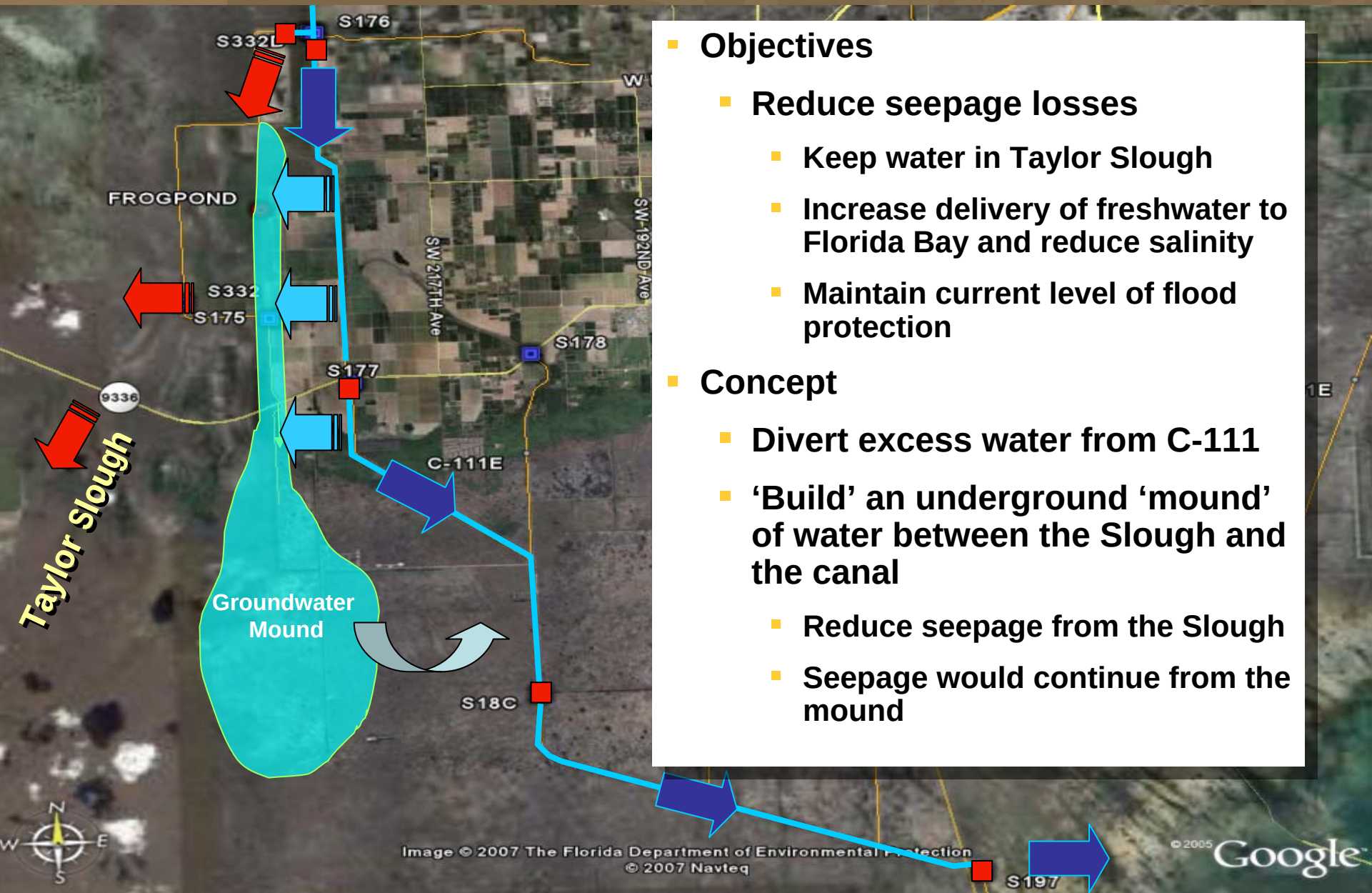
Tommy B. Strowd, P.E. – Assistant Deputy Executive Director
Dewey Worth – Dir. Southern Everglades
Everglades Restoration Resource Area

Existing System



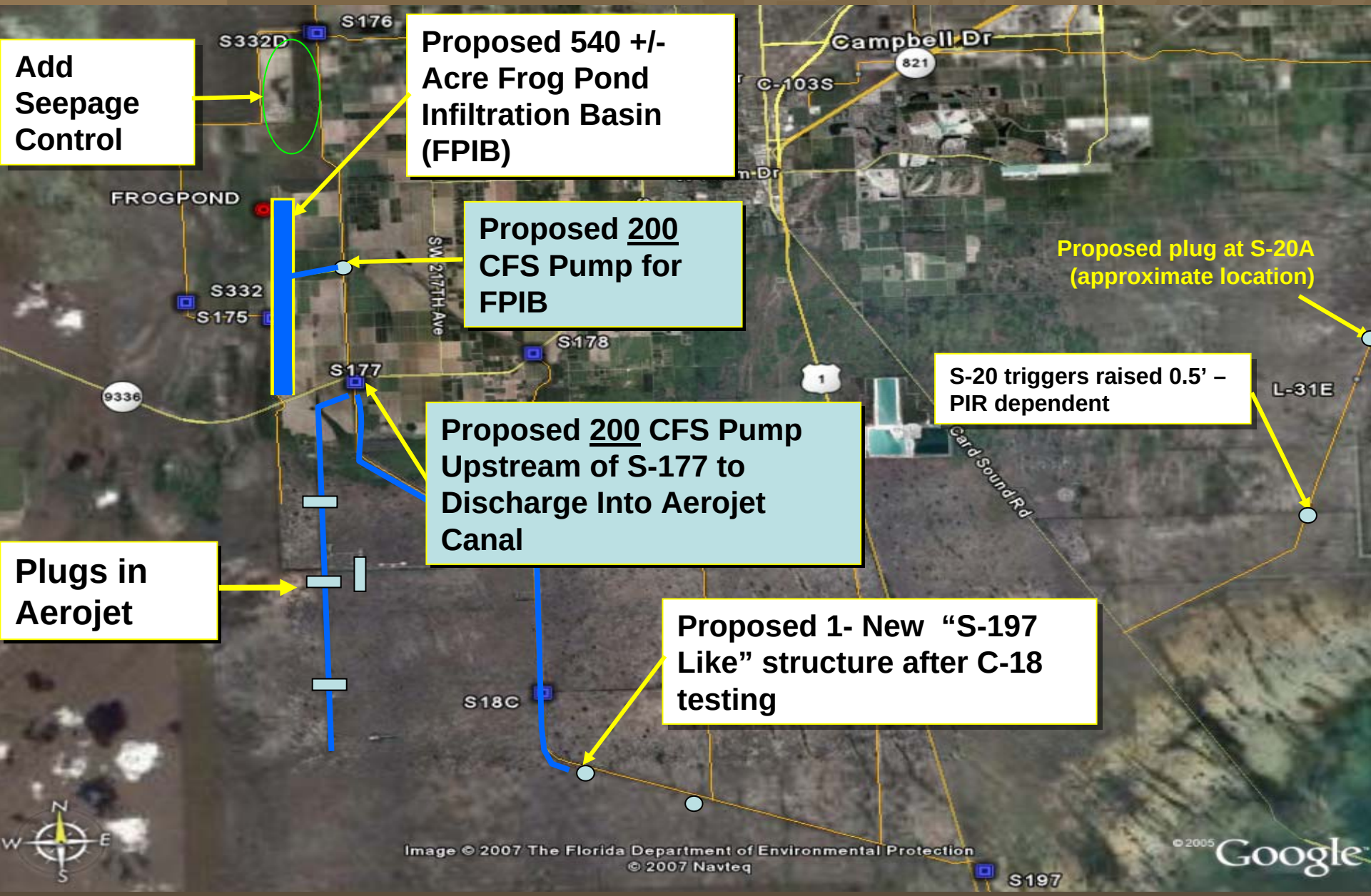
- Flows are moved from north to south in the C-111 Canal for water supply and flood contol
  - To accomplish this ,stages are ‘Stair-Stepped’ down to sea level at S-197
- Environmental deliveries from C-111 are pumped at S-332D to supplement flows in Taylor Slough
  - Keeping water levels in the Slough higher than the C-111 canal
- This results in the significant loss of water from Taylor Slough to C-111 via underground seepage

Conceptual Solution

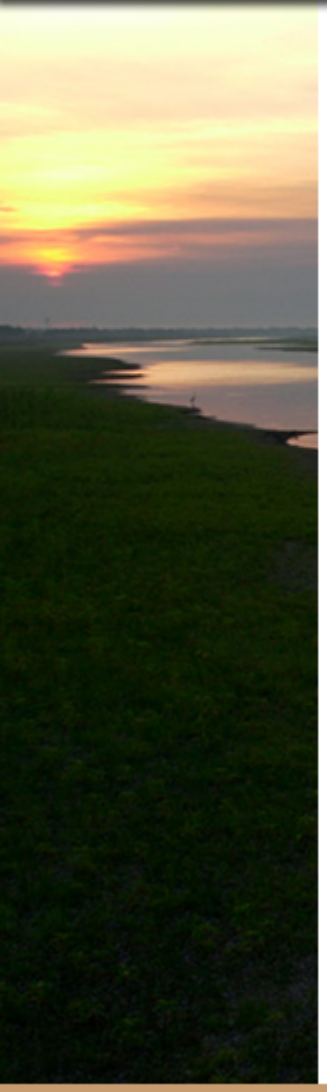


- **Objectives**
  - **Reduce seepage losses**
    - **Keep water in Taylor Slough**
    - **Increase delivery of freshwater to Florida Bay and reduce salinity**
    - **Maintain current level of flood protection**
- **Concept**
  - **Divert excess water from C-111**
  - **'Build' an underground 'mound' of water between the Slough and the canal**
    - **Reduce seepage from the Slough**
    - **Seepage would continue from the mound**

Expedited Plan Components of PIR Alt 2D

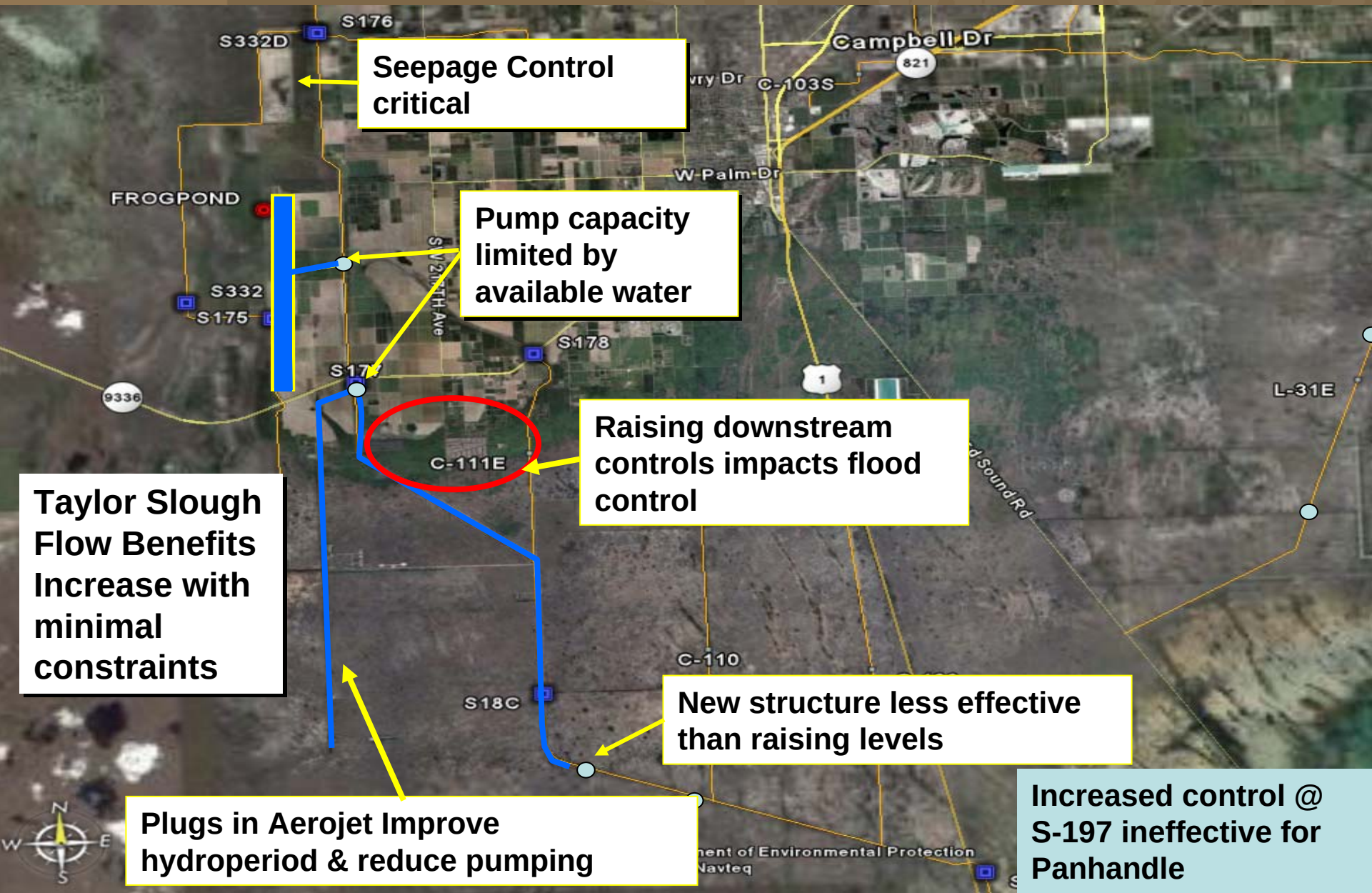


Performance Summary

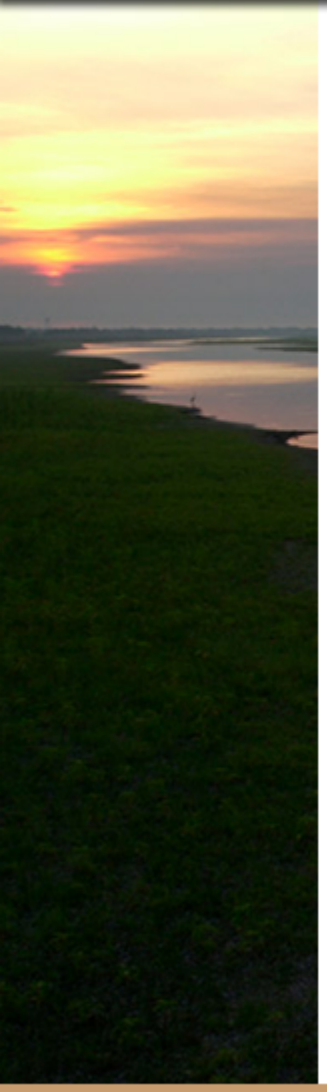


Project Components	% Increased Flow to Taylor Slough
Basic Frog Pond and Aero Jet components	**15%**
Add New S-197	**19%**
Raise Levels 0.2 ft @ New S-197 or S-18C	**25%**
Raise Levels 0.5 ft @ S-18C	**40%**

Ecosystem Benefits and Concern Areas

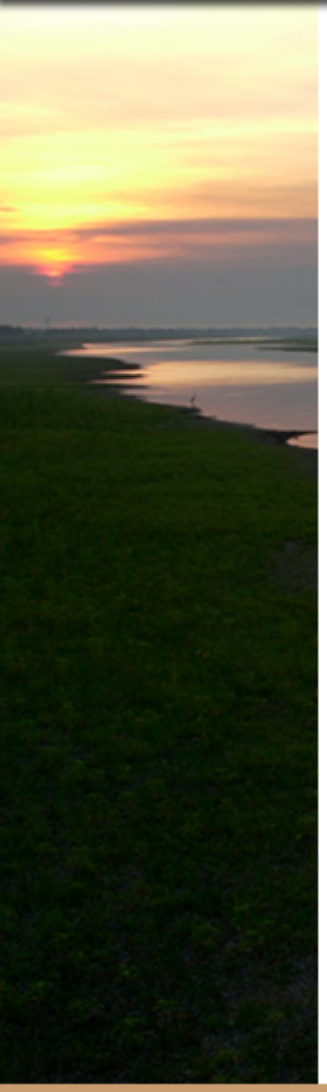


Stakeholder Comments



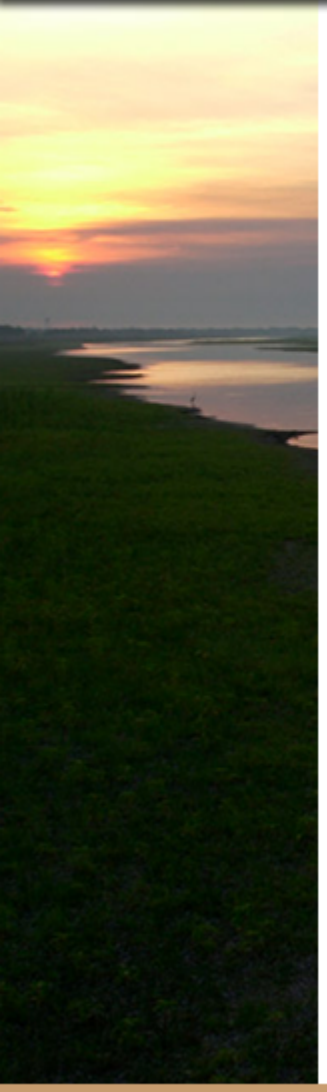
- **Farming interest concerned increased water level controls will cause flooding**
  - Allow lower canal stages upstream (S-177) to provide more water for Taylor Slough and provide some flood control benefit
    - Lower canal stages upstream could introduce water quality problems
- **Environmental community supports higher water level controls to increase Taylor Slough flow and restore Florida Bay**
  - Concerns regarding incremental implementation
- **Purpose of PIR-1 should be to used to determine flows required to restore Taylor Slough**
- **Existing South Dade system has diminished flood control protection**
- **S-332D Seepage return should be addressed if possible to improve Taylor Slough water delivery**

Linking Operations and Ecosystem Benefits

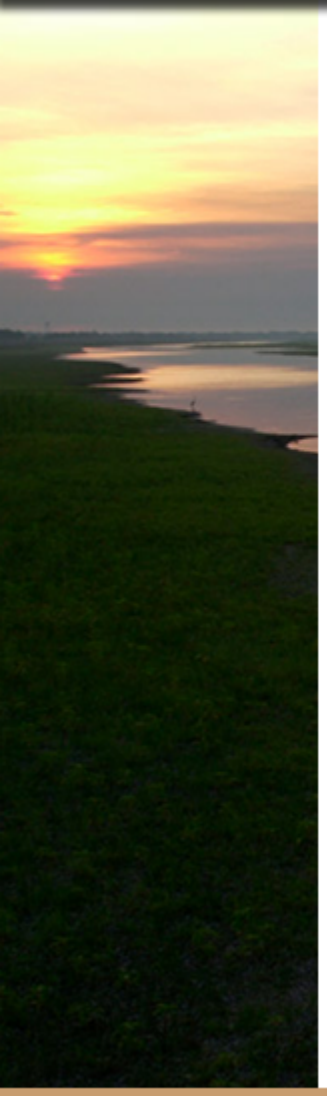


- Proposed structures facilitate a wide range of operational possibilities -- flexibility
- Establish base set of operations commensurate with benefits and constraints of the project
- Project Implementation Report (PIR) to include flexibility to test and measure benefits of different operating regimes
- Extensive monitoring
- Implement permanent operational changes in Phase 2 PIR along with any required mitigation measures if necessary

Opportunities / Challenges

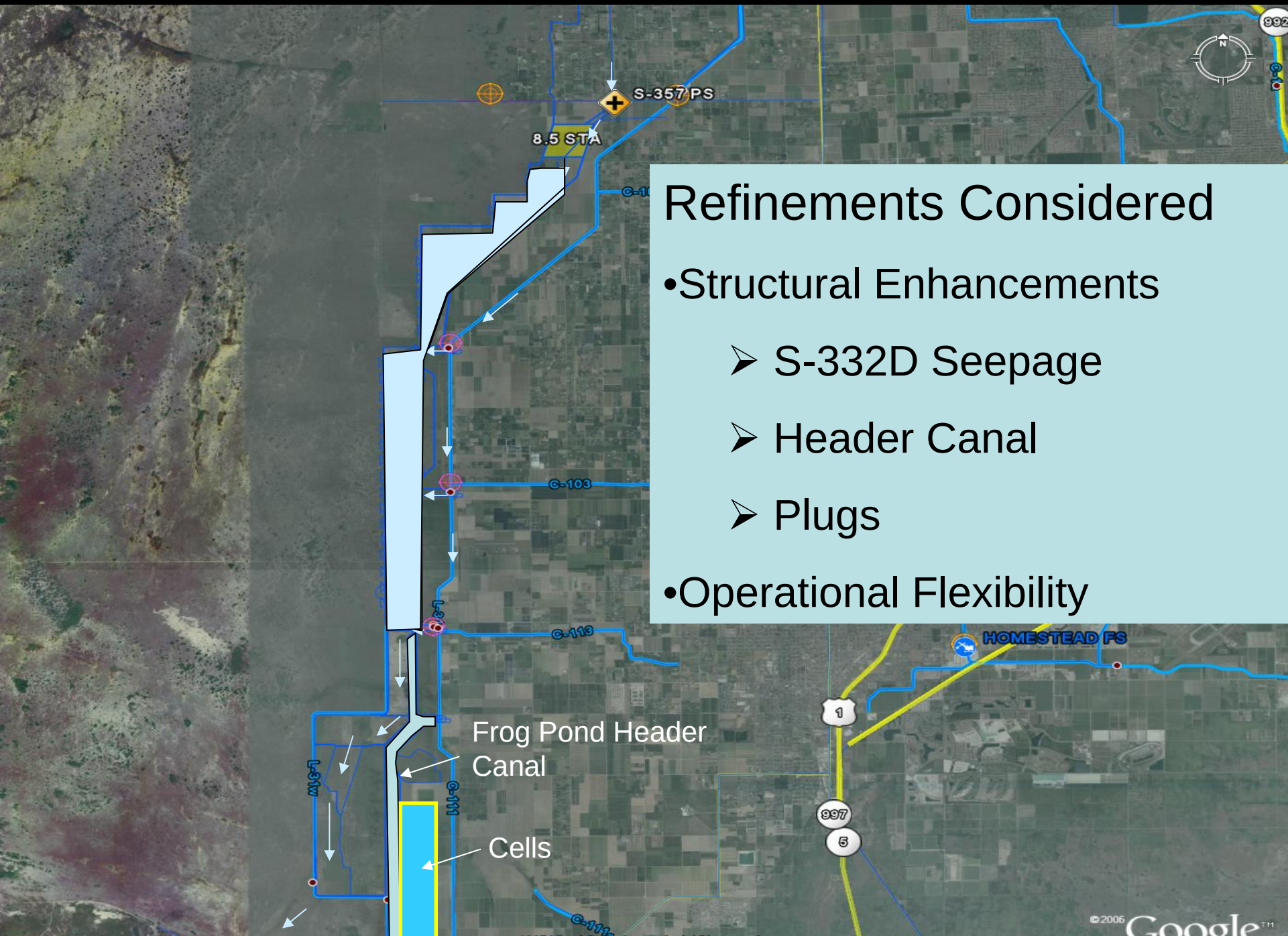


- Expedited plan provides significant learning
- Early benefits and identification of potential problems
- Provides early design basis for PIR-2
- Working with USACE to maintain consistency



Questions

USACE PIR Recommended Plan – Alt 2D

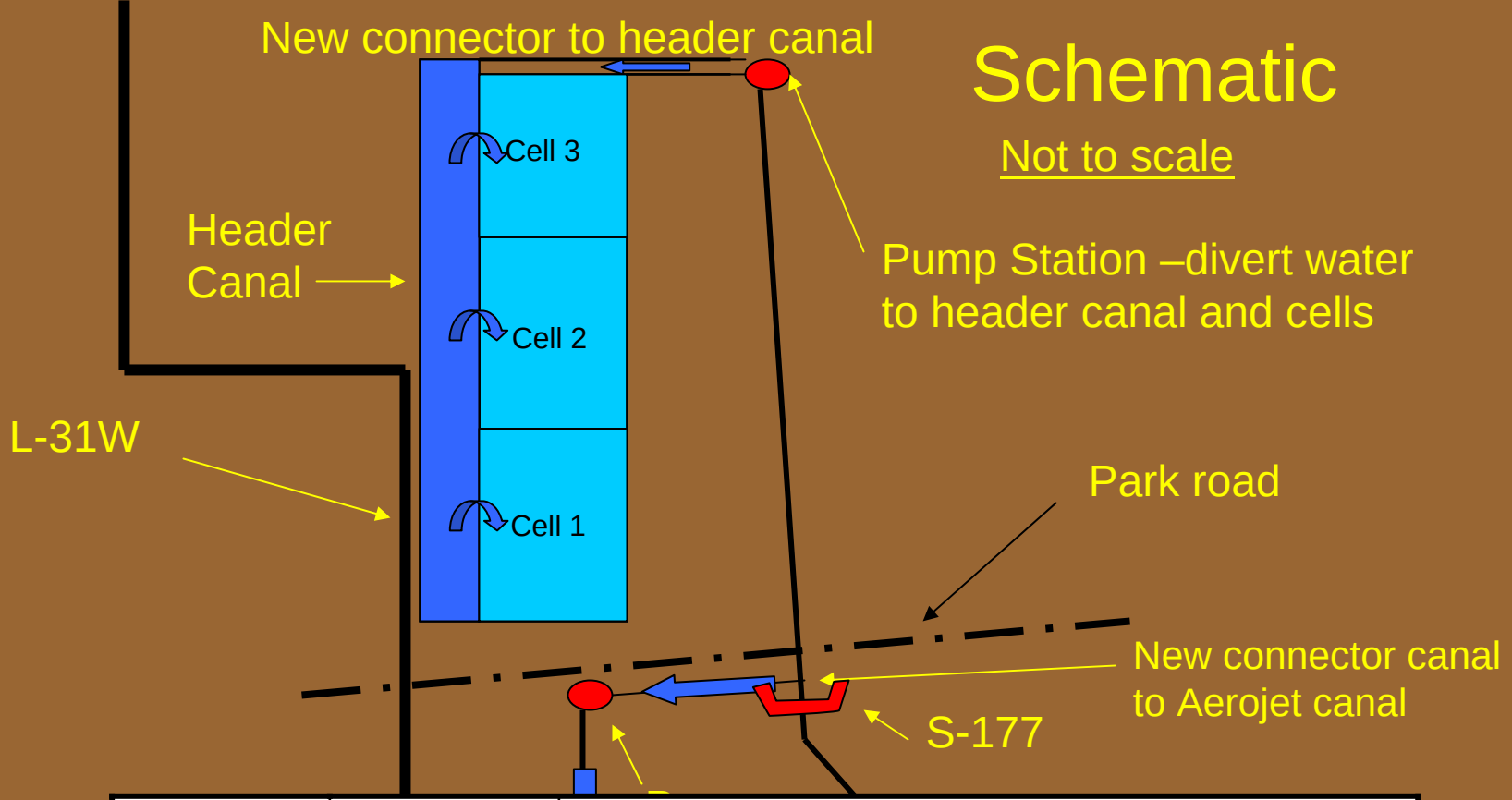


Refinements Considered

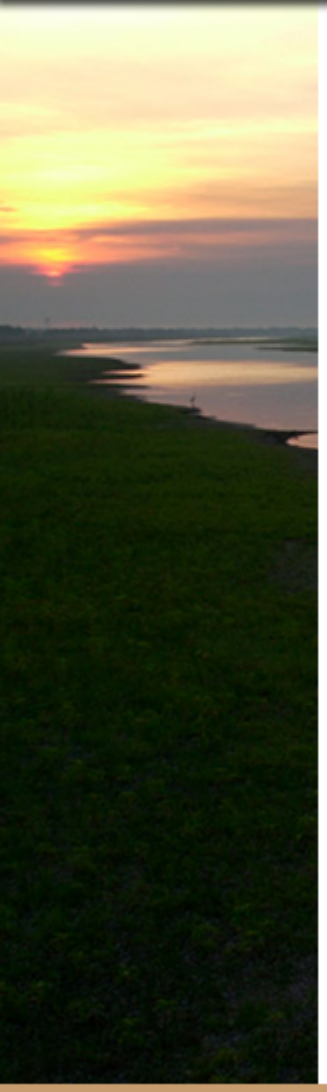
- Structural Enhancements
  - S-332D Seepage
  - Header Canal
  - Plugs
- Operational Flexibility

Schematic

Not to scale



Water Control Feature	Existing Operating Conditions	Modified With (Higher) and [Lower] Trigger Conditions
S-177 Open	**HW >=** 4.2'	**Pump On S177 HW >=** (4.2') : [3.9'] [0.3' lower]
Close	**HW <=** 3.6'	**S-177 open** **HW >= 4.5'** : 4.2' **(**0.3' higher)



Expedited Plan Recommendation